## **CLAIMS**

- 1 1. A error detection system for a clock signal comprising:
- a first counter that receives and counts the clock signal,
- a phase-locked loop circuit that receives the clock signal and outputs a second
- 4 clock signal,
- a second counter that receives and counts the second clock signal, and
- a comparator that receives and compares the outputs of the first and the second
- 7 counters, and
- an error output from the comparator that is true when the counts of the first and
- 9 the second counters are unequal.
- 1 2. The error detection system as defined in claim 1 further comprising and second
- output from the comparator that indicates which counter contains a higher count.
- 1 3. The error detection system as defined in claim 1 further comprising means for re-
- setting the counters synchronized to the successful capture of the clock signal by the
- 3 PLL.
- 1 4. The error detection system as defined in claim 1 further comprising:
- a sender that sends data and the clock signal, the clock signal defined as a for-
- 3 warding source synchronous clock signal,
- a receiver latch that accepts and latches the data therein with the forwarding
- 5 clock.
- 5. A method for detecting clock signal errors comprising the steps of:
- a first counting of the first clock signals,
- providing a second clock signal with a frequency that is locked to the average fre-
- 4 quency of the first clock signal,
- 5 a second counting of the second clock signals,
- detecting a difference between the first and the second countings, and

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- signaling an error therewith.
- The method as defined in claim 5 further comprising the step of: signalling which 6. counting is higher.
- The methods as defined in claim 5 further comprising the step of synchronizing 7. the two countings.
- The method as defined in claim 5 further comprising the steps of: 8. 1
- sending data and the clock signal, wherein the clock signal is a forwarding source 2
- synchronous clock signal, 3
- receiving the data, and 4
- latching the data with the forwarding clock signal. 5